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REDESIGNED PASS-THROUGH HEAT SEAL DIE. (U)

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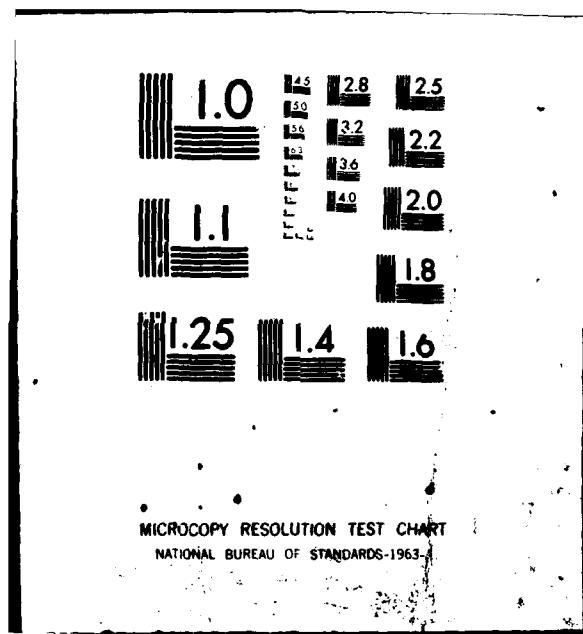
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Redesigned Pass-Through Heat Seal Die

DAAK11-79-C-0066

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28 March 1980

Final Report for Period 11 June 1979 — 29 March 1980

Prepared For:

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This task was authorized to redesign the heat seal tool that attaches the air inlet to the DPE Outer garment. The original tool had permitted electrical arcing between the inlet fitting and itself during the heat seal operation. The new tool eliminates this arcing and continues to make a heat sealed seam of equal strength.		

FOREWARD

The work reported herein was conducted by ILC DOVER, Frederica, Delaware, for ARRADCOM, CML/Ballistics Procurement, APG (Edgewood Area), Maryland in accordance with Contract DAAK11-79-C-0066, Task Order Number 3. Mr. Donald R. Cohee was the Program Manager for ILC DOVER. Mr. Wayne Davis was the Contract Monitor for the Chemical Systems Laboratory. This work was accomplished between 11 June 1979 and 29 March 1980.

This technical report has been reviewed and is approved.

Mr. David M. English, Chief
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Physical Protection Division
Chemical Systems Laboratory

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INTRODUCTION

This task was authorized to redesign the air inlet pass-through attachment die in order to eliminate the arcing between the die and the inlet fittings. The arcing occurs during the heat sealing operation when one of the inlet fittings comes in electrical contact with the inside wall of the die.

COMPLETED ACTIVITY

The following work was performed during the completion of this task order:

- (1) The die was redesigned to eliminate arcing by using nonconducting phenolic inserts on the walls of the cavity in the die. This simply involves enlargement of the cavity, to accommodate the inserts, leaving the same amount of space for the pass-through fitting. Other modifications were made to make the die more durable and easier to use. These are as follows:
 - (a) The lower die was made higher, giving the pass-through fittings clearance from the bottom platen, so that the operator does not have to pick up the entire block for each pass-through insertion. The top die was made slightly shorter so that the entire assembly (top die, pass-through, and lower die) can fit between the heat seal platens.
 - (b) The lower die was changed to include a brass insert in the area where the pass-through is inserted. The brass is more durable than aluminum, and will be less damaged by the impact

of the fittings as the operator inserts them. Also, the inserts will be easier and less expensive to replace than a whole new die when the denting has become pronounced enough to affect the heat seal.

- (2) The redesigned die was fabricated, and the necessary drawings made. Seam samples made with the new tool were tested and found adequate per specification. ECP Number 80-0058-005 includes the tool drawings and seam sample test results.
- (3) All changes to the specification, tool drawings and test results have been submitted to CSL for approval. Refer to ECP Number 80-0058-005 for this documentation.

CONCLUSION

The redesigned pass-through heat seal die is now available for use in production of DPE Outergarments.